

AISA EAGLE *hyperspectral sensor*

AISA Eagle hyperspectral system provides 1000 swath pixels with full hyperspectral VNIR data.



Eagle II sensor head
 L: 146 mm
 W: 146 mm
 H: 347 mm
 Mass: 7 kg

AISA Eagle is regarded as an excellent analytical, detection and mapping tool that provides an exceptional performance in airborne and field use at an affordable cost.

The sensor has established its ability in a range of commercial, research and public service applications. Some of the applications that AISA Eagle has been involved in are forestry management, vegetation cultivation, environmental investigations, precision farming,

target identification, water assessment and land use planning.

AISA Eagle sensor makes a high performance hyperspectral imaging system when integrated with AISA data acquisition computer, RSCube software, GPS/INS sensor, and power supply.

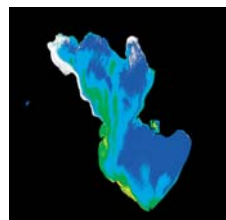
System Components

Besides a high performance sensor head, all AISA systems integrate the following basic system components:

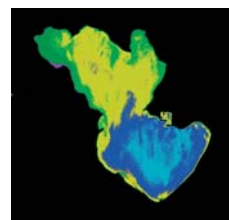
- Real time acquisition computer with a user-friendly interface
- GPS/INS sensor
- Power supply
- Galigeo post-processing software

For more information, please see the AISA Systems brochure.

Rectified Reflectance Image



Lake Chlorophyll Map



Lake Total Suspended Solids Map

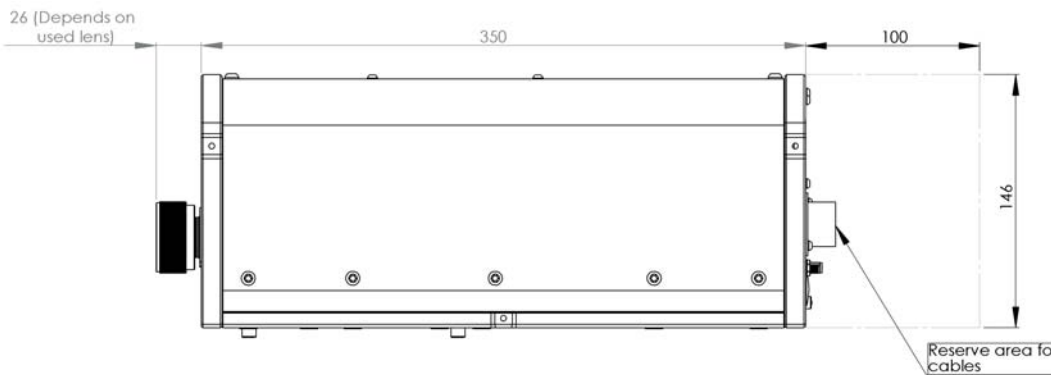
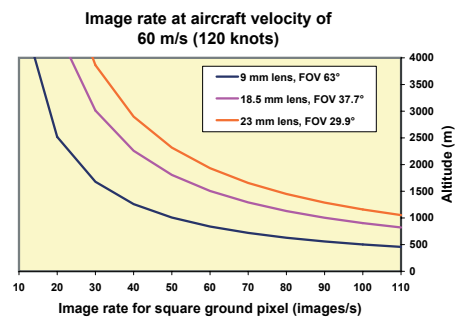
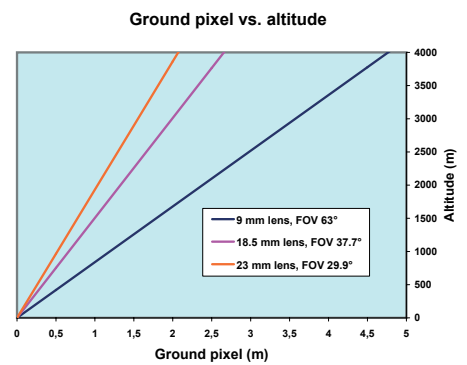
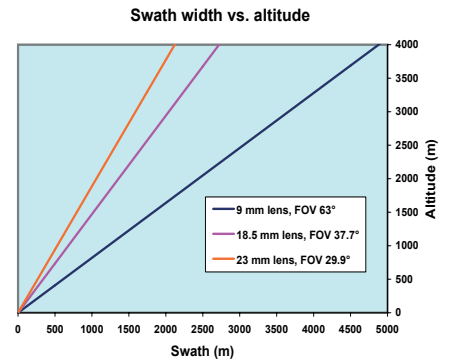


Lake Phycocyanin Map

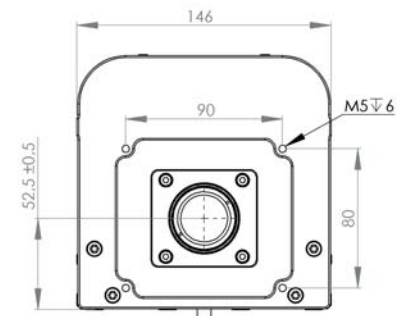
AISA Eagle usage on inland water application.
 Target area is Pawnee Lake in Lincoln, Nebraska.
 (Courtesy of CALMIT Center of Advanced Land Management Information Technologies, University of Nebraska, the Nebraska Game and Parks Commission and the Nebraska Department of Environmental Quality.)

AISA Eagle Sensor head

SENSOR HEAD		TYPICAL SPECIFICATIONS				
Spectrograph	High efficiency transmissive imaging spectrograph. Throughput practically independent of polarization. Smile and keystone < 2 microns.					
F/#	F/2.4					
Spectral range	400-970 nm					
Spectral resolution	2.9 nm					
Slit width	30 microns					
Spectral binning options	1x	2x	4x	8x	8x + sw2x	
# of spectral bands	488	244	122	60	30	
Spectral sampling/band	1.25 nm	2.3nm	4.6nm	9.2nm	18.4nm	
Image rate, up to (images/s)	30	50	80	100	120	
Spatial pixels, up to	1024, of which 70 - 80 FODIS pixels (optional)					
FORE OPTICS						
Fore optics options	OLE23		OLE18,5		OLE9	
Focal length	23 mm		18,5 mm		9 mm	
FOV	29.9 degrees		37.7 degrees		62,1 degrees	
IFOV	0.029 degrees		0.037 degrees		0.060 degrees	
Swath width	0.53 x altitude		0.68 x altitude		1.20 x altitude	
Ground resolution @ 1000 m altitude	0.52 m		0.68 m		1.2 m	
ELECTRICAL CHARACTERISTICS						
Camera	Progressive scan CCD camera					
Output	12 bits digital					
Integration time	Settable independent of image rate					
Shutter	Electromechanical shutter for dark background registration, user controllable by software.					
FODIS	Diffuse light collector and fiber optic cable (5 m standard) with SMA connector					
Calibration	Sensor head comes with wavelength and radiometric calibration file.					
Operating modes	Hyperspectral and multispectral					



AISA Eagle sensor head, side view



AISA Eagle sensor head, front view